ELSEVIER

Surface Science 427–428 (1999) 452–456

surface science

www.elsevier.nl/locate/susc

Author index

Ajito, K. and M. Morita, Imaging and spectroscopic analysis of single microdroplets containing *p*-cresol using the near-infrared laser tweezers/Raman microprobe system 427–428 (1999) 141
Akazawa, H., Formation and decomposition of a Si hydride layer during vacuum ultraviolet-excited Si homoepitaxy from disilane 427–428 (1999) 214
Akita, M., N. Osaka, S. Hiramoto and K. Itoh, Infrared reflection absorption spectroscopic study on the adsorption structures of ethylene on Ag(110) and atomic oxygen pre-covered Ag(110) surfaces 427–428 (1999) 374
Akita, M., see Osaka 427–428 (1999) 381
Al-Shamery, K., see Wilde 427–428 (1999) 27
Alieva, E.V., see Mattei 427–428 (1999) 235
Angot, T. and P. Louis, Metal–semiconductor transition observed by HREELS on the surface of $Si_{1-x}Ge_x$/Si(001) grown by CTL-CVD at 620 K 427–428 (1999) 224
Arigane, T., K. Yoshida, T. Wadayama and A. Hatta, In situ FT-IR and photoluminescence study of porous silicon during exposure to F_2, H_2O, and D_2O 427–428 (1999) 304
Arnold, M., see Fritsch 427–428 (1999) 58
Aruga, T., see Kishi 427–428 (1999) 74
Aruga, T., see Okuyama 427–428 (1999) 277
Asano, A., T. Kubota, Y. Nishioka and H. Kobayashi, Dependence of interface states for ultra-thin SiO_2/Si interfaces on the oxide atomic density determined from FTIR measurements 427–428 (1999) 219
Ataka, K., see Noda 427–428 (1999) 190

Bandara, A., J. Kubota, K. Onda, A. Wada, S.S. Kano, K. Domen and C. Hirose, Time-resolved SFG study of the vibrational excitation of adsorbed CO on Ni(111) and NiO(111) surfaces under the irradiation of UV and visible photons 427–428 (1999) 331
Bandara, A., see Katano 427–428 (1999) 337
Bandara, A., see Domen 427–428 (1999) 349
Bäumer, M., see Frank 427–428 (1999) 288
Becker, C., see Pelster 427–428 (1999) 398
Becker, C., T. Pelster, M. Tanemura, J. Breitbach and K. Wandelt, CO adsorption on $Cu_3Pt(111)$ and $CuPt_3(111)$: a comparative HREELS study 427–428 (1999) 403
Ber, B.Ja., see Sloboshanin 427–428 (1999) 250
Birtill, J.J., see Nunney 427–428 (1999) 282
Bitzer, T. and N.V. Richardson, The influence of coadsorbed sodium atoms on the chemisorption of benzoic acid on Si(100)-2 × 1 427–428 (1999) 369
Bouzidi, S., see Silien 427–428 (1999) 79
Bowman, J.M., see Park 427–428 (1999) 343
Bradshaw, A.M., see Constant 427–428 (1999) 262
Breitbach, J., see Pelster 427–428 (1999) 398
Breitbach, J., see Becker 427–428 (1999) 403

Cai, W.B., see Ren 427–428 (1999) 157
Cai, W.B., see Huang 427–428 (1999) 162
Campion, A., see Kambhampati 427–428 (1999) 115
Cao, G., G. Moula, Y. Ohno and T. Matsushima, Site switching in steady state carbon monoxide oxidation on platinum(113) 427–428 (1999) 272
Caudano, Y., see Silien 427–428 (1999) 79
Chazalviel, J.-N., see Maroun 427–428 (1999) 184
Chen, C., see Tsai 427–428 (1999) 318
Chen, Q., see Perry 427–428 (1999) 446
Cole, R.J., see Perry 427–428 (1999) 446
Conrad, H., see Constant 427–428 (1999) 262
Constant, L., B. Krenzer, W. Stenzel, H. Conrad and A.M. Bradshaw, The formation of carbonate on Ag(110) studied by high-resolution EELS 427–428 (1999) 262

Diño, W.A., H. Kasai and A. Okiji, Rotational polarization and filtering of hydrogen molecules by metal surfaces isotope effects 427–428 (1999) 358
Domen, K., see Bandara 427–428 (1999) 331
Domen, K., see Katano 427–428 (1999) 337
Domen, K., A. Bandara, J. Kubota, K. Onda, A. Wada, S.S. Kano and C. Hirose, SFG study of unstable surface species by picosecond pump–probe method 427–428 (1999) 349
Dumas, P., see Mazzara 427–428 (1999) 208

Eckl, C., see Fritsch 427–428 (1999) 58
Egawa, C., S. Oki, M. Kaneko, N. Minami and I. Suzuki, Ethylene hydrogenation on a Ni(100) surface 427–428 (1999) 268
Esser, N., K. Hinrichs, J.R. Power and W. Richter, High-resolution analysis of semiconductor surface phonons by Raman spectroscopy 427–428 (1999) 44

Eumann, M., see Schmitz 427–428 (1999) 91
Ewing, G.E., see Foster 427–428 (1999) 102

Foster, M. and G.E. Ewing, An infrared spectroscopic study of water thin films on NaCl(100) 427–428 (1999) 102
Franchy, R., see Schmitz 427–428 (1999) 91
Franchy, R., see Tsuruoka 427–428 (1999) 257
Frank, M., R. Kühnemuth, M. Bäumer and H.-J. Freund, Oxide-supported Rh particle structure probed with carbon monoxide 427–428 (1999) 288
Frederick, B.G., see Perry 427–428 (1999) 446
Freund, H.-J., see Wilde 427–428 (1999) 27
Freund, H.-J., see Frank 427–428 (1999) 288
Fricke, A., see Hayashi 427–428 (1999) 393
Fritsch, J., M. Arnold, C. Eckl, R. Honke, P. Pavone and U. Schröder, Density-functional calculation of phonons in adsorbate-covered semiconductor surfaces 427–428 (1999) 58
Fritsch, J., O.F. Sankey, K.E. Schmidt and J.B. Page, Chemical reactions of ammonia with polar and non-polar nitride semiconductor surfaces 427–428 (1999) 298
Fukutani, K., see Wilde 427–428 (1999) 27
Futamata, M., In-situ ATR-IR study of water on gold electrode surface 427–428 (1999) 179

Gao, J.S., see Huang 427–428 (1999) 162
Glebov, A.L., A.P. Graham and A. Menzel, Vibrational spectroscopy of water molecules on Pt(111) at submonolayer coverages 427–428 (1999) 22
Graham, A.P. and J.P. Toennies, Determination of the lateral potential energy surface of single adsorbed atoms and molecules on single crystal surfaces using helium atom scattering 427–428 (1999) 1
Graham, A.P., see Glebov 427–428 (1999) 22

Haq, S., see Perry 427–428 (1999) 446
Hasegawa, S., see Jiang 427–428 (1999) 239
Hasegawa, T., see Myrzakozha 427–428 (1999) 107
Hasegawa, Y., see Rokuta 427–428 (1999) 97
Hatta, A., see Suzuki 427–428 (1999) 136
Hatta, A., see Arigane 427–428 (1999) 304
Hatta, A., see Tanabe 427–428 (1999) 414
Hayashi, S., T. Kitagawa, Y. Sekiguchi and T. Kume, Enhanced-Raman scattering from organic thin films mediated by half-leaky guided modes 427–428 (1999) 126
Hayashi, S., see Sano 427–428 (1999) 131
Hayashi, T., A. Fricke, K. Katsura, C. Kodama and H. Nozoye, Adsorption state of diethyldisulfide on Au(111) studied with a combined system of HREELS and STM 427–428 (1999) 393
Heidberg, J., A. Rugullies, I. Stahl and M. Thomas, Polarization infrared spectroscopic study of the influence of external lateral electric fields up to 8×10^5 V m^{-1} on the CO_2–NaCl(100) adsorbate 427–428 (1999) 426
Heidberg, J., M. Hustedt, E. Kampshoff and V.M. Rozenbaum, Davydov and site symmetry splitting in polarized infrared spectra of ordered monolayers. A quantitative theoretical analysis of vibrational frequencies and integrated absorptions for CO_2 on NaCl(100) 427–428 (1999) 431
Heidberg, J. and H. Henseler, The physisorption of CO_2 and the stepwise chemisorption of SO_2 on the CsF(100) single crystal surface 427–428 (1999) 439
Henseler, H., see Heidberg 427–428 (1999) 439
Hinrichs, K., see Esser 427–428 (1999) 44
Hiramoto, S., see Akita 427–428 (1999) 374
Hiramoto, S., see Osaka 427–428 (1999) 381
Hirose, C., see Bandara 427–428 (1999) 331
Hirose, C., see Katano 427–428 (1999) 337
Hirose, C., see Domen 427–428 (1999) 349
Honke, R., see Fritsch 427–428 (1999) 58
Horiuchi, T., see Iwasaki 427–428 (1999) 195
Hosoi, Y., see Yamamoto 427–428 (1999) 388
Huang, Q.J., X.Q. Li, J.L. Yao, B. Ren, W.B. Cai, J.S. Gao, B.W. Mao and Z.Q. Tian, Extending surface Raman spectroscopic studies to transition metals for practical applications. III. Effects of surface roughening procedure on surface-enhanced Raman spectroscopy from nickel and platinum electrodes 427–428 (1999) 162
Hustedt, M., see Heidberg 427–428 (1999) 431

Ikeda, T., see Jung 427–428 (1999) 111
Imae, T., see Myrzakozha 427–428 (1999) 107
Inamura, T., see Suzuki 427–428 (1999) 136
Inoue, Y., see Nishiyama 427–428 (1999) 152
Ishii, H., see Yamamoto 427–428 (1999) 388
Ito, E., see Yamamoto 427–428 (1999) 388
Ito, M., see Nakamura 427–428 (1999) 167
Ito, M., see Shingaya 427–428 (1999) 173
Itoh, A., see Rokuta 427–428 (1999) 97
Itoh, K., see Akita 427–428 (1999) 374
Itoh, K., see Osaka 427–428 (1999) 381
Iwasaki, Y., T. Horiuchi, M. Morita and O. Niwa, Electrochemical reaction of $Fe(CN)_6^{3-/4-}$ on gold electrodes analyzed by surface plasmon resonance 427–428 (1999) 195
Iwasawa, Y., see Sasaki 427–428 (1999) 408

Jakob, P., Lateral interactions in (NO + O) coadsorbate layers on Ru(001): fundamental and overtone modes 427–428 (1999) 309
Janischowsky, K., see Ley 427–428 (1999) 245
Jiang, C.-S. and S. Hasegawa, Photoconductivity of the Si(111)-7 × 7 and $\sqrt{3} \times \sqrt{3}$-Ag surfaces 427–428 (1999) 239
Jung, Y.M., H. Sato, T. Ikeda, H. Tashiro and Y. Ozaki, Surface-enhanced Raman scattering study of organic thin films of 2-octadecyl-7, 7, 8, 8-tetracyanoquinodimethane and its charge transfer films doped with 3, 3′, 5, 5′-tetramethylbenzidine 427–428 (1999) 111
Jupille, J., see Mazzara 427–428 (1999) 208

Kajikawa, K., see Yamamoto 427–428 (1999) 388
Kakizaki, A., see Suto 427–428 (1999) 85
Kambhampati, P. and A. Campion, Surface enhanced Raman

scattering as a probe of adsorbate–substrate charge-transfer excitations 427–428 (1999) 115
Kampling, M., see Wilde 427–428 (1999) 27
Kampshoff, E., see Heidberg 427–428 (1999) 431
Kaneko, M., see Egawa 427–428 (1999) 268
Kano, S.S., see Bandara 427–428 (1999) 331
Kano, S.S., see Domen 427–428 (1999) 349
Kasai, H., see Diño 427–428 (1999) 358
Katano, S., A. Bandara, J. Kubota, K. Onda, A. Wada, K. Domen and C. Hirose, Screening of SFG signals from bridged CO on Ni(111) by the coexistence of linear CO 427–428 (1999) 337
Kato, H., J. Yoshinobu and M. Kawai, Determination of six types of vibrational mode for bridge CO on Pd(110) 427–428 (1999) 69
Katsura, K., see Hayashi 427–428 (1999) 393
Kawai, M., see Kato 427–428 (1999) 69
Kawasaki, M., see Tsuruoka 427–428 (1999) 257
Kimura, A., see Suto 427–428 (1999) 85
Kishi, K., A. Oka, N. Takagi, M. Nishijima and T. Aruga, Structure and chemistry of Pd(100)-p(2 × 2)-p4g–Al surface alloy 427–428 (1999) 74
Kitagawa, T., see Hayashi 427–428 (1999) 126
Kitagawa, T., see Sano 427–428 (1999) 131
Kitayama, E., see Yamanaka 427–428 (1999) 364
Kobayashi, E., K. Matsuda, G. Mizutani and S. Ushioda, SHG observation of *rutile* $TiO_2(110)/H_2O$ interface under UV light illumination 427–428 (1999) 294
Kobayashi, H., see Asano 427–428 (1999) 219
Kobayashi, Y., K. Sumitomo and T. Ogino, Observation of Ge surface segregation during Si-MBE on Ge/Si(001) probed by Si–H/Ge–H surface vibrations 427–428 (1999) 229
Kodama, C., see Hayashi 427–428 (1999) 393
Kondo, D., see Suto 427–428 (1999) 85
Krenzer, B., see Constant 427–428 (1999) 262
Kubo, H., see Shingaya 427–428 (1999) 173
Kubota, J., see Bandara 427–428 (1999) 331
Kubota, J., see Katano 427–428 (1999) 337
Kubota, J., see Domen 427–428 (1999) 349
Kubota, T., see Asano 427–428 (1999) 219
Kühnemuth, R., see Frank 427–428 (1999) 288
Kume, T., see Hayashi 427–428 (1999) 126
Kume, T., see Sano 427–428 (1999) 131
Kürpick, U. and T.S. Rahman, The role of vibrational entropy in surface diffusion: adatoms and vacancies on Ag(100), Cu(100), and Ni(100) 427–428 (1999) 15

Lee, S.-B., see Ryu 427–428 (1999) 419
Ley, L., B.F. Mantel, K. Matura, M. Stammler, K. Janischowsky and J. Ristein, Infrared spectroscopy of C–D vibrational modes on diamond (100) surfaces 427–428 (1999) 245
Li, X.Q., see Ren 427–428 (1999) 157
Li, X.Q., see Huang 427–428 (1999) 162
Lin, C.-E., see Tsai 427–428 (1999) 318
Lin, J.-C., see Tsai 427–428 (1999) 318
Longueville, J.-L., see Silien 427–428 (1999) 79
Louis, P., see Angot 427–428 (1999) 224
Mantel, B.F., see Ley 427–428 (1999) 245
Mao, B.W., see Huang 427–428 (1999) 162
Maroun, F., F. Ozanam and J.-N. Chazalviel, In situ infrared monitoring of hydrogen adsorption/desorption at a germanium electrode 427–428 (1999) 184
Matsuda, K., see Kobayashi 427–428 (1999) 294
Matsushima, T., see Cao 427–428 (1999) 272
Matsushima, T., see Yamanaka 427–428 (1999) 364
Mattei, G., E.V. Alieva, J.E. Petrov and V.A. Yakovlev, Enhancement of adsorbate vibrations due to interaction with microcavity mode in porous silicon superlattice 427–428 (1999) 235
Matura, K., see Ley 427–428 (1999) 245
Mazzara, C., J. Jupille, W.-Q. Zheng, M. Tanguy, A. Tadjeddine and P. Dumas, Hydrogen-terminated Si(111) and Si(100) by wet chemical treatment: linear and non-linear infrared spectroscopy 427–428 (1999) 208
Menzel, A., see Glebov 427–428 (1999) 22
Menzel, D., see Moritz 427–428 (1999) 64
Mii, T. and H. Ueba, Influence of pulse duration on time-resolved sum-frequency generation on surface vibrations 427–428 (1999) 324
Minami, N., see Egawa 427–428 (1999) 268
Miyake, T., I. Oodake and H. Petek, Lateral thermal expansion of Cu(110) surface studied with helium atom scattering 427–428 (1999) 39
Miyamoto, Y., see Saito 427–428 (1999) 53
Miyazaki, T., see Tanaka 427–428 (1999) 147
Mizutani, G., see Sano 427–428 (1999) 131
Mizutani, G., see Tanaka 427–428 (1999) 147
Mizutani, G., see Kobayashi 427–428 (1999) 294
Morita, M., see Ajito 427–428 (1999) 141
Morita, M., see Iwasaki 427–428 (1999) 195
Moritz, T., D. Menzel and W. Widdra, Collective vibrational modes of the high-density (1 × 1)-O phase on Ru(001) 427–428 (1999) 64
Moula, G., see Cao 427–428 (1999) 272
Murata, Y., see Wilde 427–428 (1999) 27
Myrzakozha, D.A., T. Hasegawa, J. Nishijo, T. Imae and Y. Ozaki, Infrared studies of mixed Langmuir–Blodgett monolayers of octadecyldimethylamine oxide and dioctadecyldimethylammonium chloride with arachidic acid and poly(acrylic acid) 427–428 (1999) 107

Nagano, H., see Ogawa 427–428 (1999) 34
Nakagawa, T., see Okuyama 427–428 (1999) 277
Nakamura, M., M.-B. Song and M. Ito, Adsorption of urea on Au(100) and Au(111) electrode surfaces studies by in-situ Fourier-transform infra-red spectroscopy 427–428 (1999) 167
Naoi, Y., see Tsuruoka 427–428 (1999) 257
Nishijima, M., see Kishi 427–428 (1999) 74
Nishijima, M., see Okuyama 427–428 (1999) 277
Nishijo, J., see Myrzakozha 427–428 (1999) 107
Nishioka, Y., see Asano 427–428 (1999) 219
Nishiyama, H., N. Saito, T. Yashima, K. Sato and Y. Inoue, Effect of shear horizontal leaky surface acoustic wave on selectivity for ethanol decomposition of a copper thin-film catalyst deposited on a positively polarized ferroelectric $LiTaO_3$ single crystal 427–428 (1999) 152

Niwa, O., see Iwasaki 427–428 (1999) 195
Niwano, M., In-situ IR observation of etching and oxidation processes of Si surfaces 427–428 (1999) 199
Noda, H., K. Ataka, L.-J. Wan and M. Osawa, Time-resolved surface-enhanced infra-red study of molecular adsorption at the electrochemical interface 427–428 (1999) 190
Nozoye, H., see Hayashi 427–428 (1999) 393
Nunney, T.S., J.J. Birtill and R. Raval, Infrared studies of sub-monolayer methylamine and trimethylamine adsorption on Ni(111) 427–428 (1999) 282

Ogawa, S., H. Nagano and H. Petek, Optical decoherence and quantum beats in Cs/Cu(111) 427–428 (1999) 34
Ogino, T., see Kobayashi 427–428 (1999) 229
Ohno, Y., see Cao 427–428 (1999) 272
Oka, A., see Kishi 427–428 (1999) 74
Oki, S., see Egawa 427–428 (1999) 268
Okiji, A., see Diño 427–428 (1999) 358
Okuyama, H., T. Nakagawa, W. Siga, N. Takagi, M. Nishijima and T. Aruga, A new reaction channel in H(g) + D(a)/Pd(100): absorption versus abstraction 427–428 (1999) 277
Onda, K., see Bandara 427–428 (1999) 331
Onda, K., see Katano 427–428 (1999) 337
Onda, K., see Domen 427–428 (1999) 349
Oodake, I., see Miyake 427–428 (1999) 39
Osaka, N., see Akita 427–428 (1999) 374
Osaka, N., M. Akita, S. Hiramoto and K. Itoh, Infrared reflection–absorption spectroscopic study on the adsorption structures of acrylonitrile on Ag(111) and Ag(110) surfaces 427–428 (1999) 381
Osawa, M., see Noda 427–428 (1999) 190
Oshima, C., see Rokuta 427–428 (1999) 97
Oshiyama, A., see Saito 427–428 (1999) 53
Otani, S., see Rokuta 427–428 (1999) 97
Ouchi, Y., see Yamamoto 427–428 (1999) 388
Ozaki, Y., see Myrzakozha 427–428 (1999) 107
Ozaki, Y., see Jung 427–428 (1999) 111
Ozanam, F., see Maroun 427–428 (1999) 184

Page, J.B., see Fritsch 427–428 (1999) 298
Park, S.C., W.K. Park and J.M. Bowman, Classical and quantum mechanical studies of the CO vibrations in CO/Cu(100) 427–428 (1999) 343
Park, S.C., see Ryu 427–428 (1999) 419
Park, W.K., see Park 427–428 (1999) 343
Pavone, P., see Fritsch 427–428 (1999) 58
Pelster, T., C. Becker, M. Tanemura, J. Breitbach and K. Wandelt, Adsorption properties of ethene on $Pt_3Cu(111)$ 427–428 (1999) 398
Pelster, T., see Becker 427–428 (1999) 403
Peremans, A., see Silien 427–428 (1999) 79
Perry, C.C., B.G. Frederick, J.R. Power, R.J. Cole, S. Haq, Q. Chen, N.V. Richardson and P. Weightman, Complementary vibrational and reflectance anisotropy spectroscopic determination of molecular azimuthal orientation 427–428 (1999) 446
Petek, H., see Ogawa 427–428 (1999) 34
Petek, H., see Miyake 427–428 (1999) 39
Petrov, J.E., see Mattei 427–428 (1999) 235
Polyakov, V.M., see Sloboshanin 427–428 (1999) 250
Power, J.R., see Esser 427–428 (1999) 44
Power, J.R., see Perry 427–428 (1999) 446

Rahman, T.S., see Kürpick 427–428 (1999) 15
Rappe, A.M., see Walter 427–428 (1999) 11
Raval, R., see Nunney 427–428 (1999) 282
Ren, B., X. Xu, X.Q. Li, W.B. Cai and Z.Q. Tian, Extending surface Raman spectroscopic studies to transition metals for practical applications. II. Hydrogen adsorption at platinum electrodes 427–428 (1999) 157
Ren, B., see Huang 427–428 (1999) 162
Richardson, N.V., see Bitzer 427–428 (1999) 369
Richardson, N.V., see Perry 427–428 (1999) 446
Richter, W., see Esser 427–428 (1999) 44
Ristein, J., see Ley 427–428 (1999) 245
Rokuta, E., Y. Hasegawa, A. Itoh, K. Yamashita, T. Tanaka, S. Otani and C. Oshima, Vibrational spectra of the monolayer films of hexagonal boron nitride and graphite on faceted Ni(755) 427–428 (1999) 97
Rozenbaum, V.M., see Heidberg 427–428 (1999) 431
Rugullies, A., see Heidberg 427–428 (1999) 426
Ryu, G.H., S.C. Park and S.-B. Lee, Molecular orbital study of the interactions of CO molecules adsorbed on a W(111) surface 427–428 (1999) 419

Saito, M., Y. Miyamoto and A. Oshiyama, Stability and lattice vibrations of the clean diamond (111) surface 427–428 (1999) 53
Saito, N., see Nishiyama 427–428 (1999) 152
Sakai, S., see Tsuruoka 427–428 (1999) 257
Sakamoto, K., see Suto 427–428 (1999) 85
Sakurai, Y., see Yamamoto 427–428 (1999) 388
Sankey, O.F., see Fritsch 427–428 (1999) 298
Sano, H., G. Mizutani, S. Ushioda, T. Kitagawa, T. Kume and S. Hayashi, Enhancement of optical second harmonic response mediated by half-leaky guided modes 427–428 (1999) 131
Sasaki, T., R. Tero, T. Sueyoshi and Y. Iwasawa, CO-induced destruction of Cu(100)–(2 × 1)Li studied by HREELS 427–428 (1999) 408
Sato, H., see Jung 427–428 (1999) 111
Sato, K., see Nishiyama 427–428 (1999) 152
Schaefer, J.A., see Sloboshanin 427–428 (1999) 250
Schmidt, K.E., see Fritsch 427–428 (1999) 298
Schmitz, G., M. Eumann, D. Stapel and R. Franchy, Combined EELS1STM study of the adsorption of nitric oxide and the formation of GaO_xN_y on CoGa(001) 427–428 (1999) 91
Schröder, U., see Fritsch 427–428 (1999) 58
Seki, H., see Suzuki 427–428 (1999) 136
Seki, K., see Yamamoto 427–428 (1999) 388
Sekiguchi, Y., see Hayashi 427–428 (1999) 126
Shimizu, Y., see Yamanaka 427–428 (1999) 364

Shingaya, Y., H. Kubo and M. Ito, Coadsorption of ammonia and electrolyte anions on a Pt(111) electrode 427–428 (1999) 173
Shintani, Y., see Tsuruoka 427–428 (1999) 257
Siga, W., see Okuyama 427–428 (1999) 277
Silien, C., Y. Caudano, J.-L. Longueville, S. Bouzidi, F. Wiame, A. Peremans and P.A. Thiry, HREELS, IR and SFG investigation of undoped and doped adsorbed fullerenes 427–428 (1999) 79
Sloboshanin, S., F.S. Tautz, V.M. Polyakov, U. Starke, A.S. Usikov, B.Ja. Ber and J.A. Schaefer, Structural, vibrational and electronic properties of faceted GaN(000$\bar{1}$) surfaces 427–428 (1999) 250
Song, M.-B., see Nakamura 427–428 (1999) 167
Stahl, I., see Heidberg 427–428 (1999) 426
Stammler, M., see Ley 427–428 (1999) 245
Stapel, D., see Schmitz 427–428 (1999) 91
Starke, U., see Sloboshanin 427–428 (1999) 250
Stenzel, W., see Constant 427–428 (1999) 262
Sueyoshi, T., see Sasaki 427–428 (1999) 408
Sugahara, T., see Tsuruoka 427–428 (1999) 257
Sumitomo, K., see Kobayashi 427–428 (1999) 229
Suto, S., K. Sakamoto, D. Kondo, T. Wakita, A. Kimura and A. Kakizaki, Bonding nature of C_{60} adsorbed on Si(111)7 × 7 and Si(100)2 × 1 surfaces studied by HREELS and PES 427–428 (1999) 85
Suzuki, I., see Egawa 427–428 (1999) 268
Suzuki, Y., H. Seki, T. Inamura, T. Tanabe, T. Wadayama and A. Hatta, Thickness dependence of infra-red absorption enhancement for methanol on evaporated silver films 427–428 (1999) 136
Suzuki, Y., see Tanabe 427–428 (1999) 414

Tadjeddine, A., see Mazzara 427–428 (1999) 208
Takagi, N., see Kishi 427–428 (1999) 74
Takagi, N., see Okuyama 427–428 (1999) 277
Tanabe, T., see Suzuki 427–428 (1999) 136
Tanabe, T., Y. Suzuki, T. Wadayama and A. Hatta, Carbon monoxide adsorption on ultra-thin Fe film deposited on Cu(100) 427–428 (1999) 414
Tanaka, H., H. Wakimoto, T. Miyazaki, G. Mizutani and S. Ushioda, Excitation energy profile of the SH intensity from a glass–Au interface 427–428 (1999) 147
Tanaka, T., see Rokuta 427–428 (1999) 97
Tanemura, M., see Pelster 427–428 (1999) 398
Tanemura, M., see Becker 427–428 (1999) 403
Tanguy, M., see Mazzara 427–428 (1999) 208
Tashiro, H., see Jung 427–428 (1999) 111
Tautz, F.S., see Sloboshanin 427–428 (1999) 250
Tero, R., see Sasaki 427–428 (1999) 408
Thiry, P.A., see Silien 427–428 (1999) 79
Thomas, M., see Heidberg 427–428 (1999) 426
Tian, Z.Q., see Ren 427–428 (1999) 157
Tian, Z.Q., see Huang 427–428 (1999) 162
Toennies, J.P., see Graham 427–428 (1999) 1
Tsai, C.-S., C. Chen, C.-E. Lin, J.-C. Lin and J.-K. Wang, Surface Raman scattering study on the hydrogenated semiconductor surfaces: vibrational dephasing dynamics 427–428 (1999) 318
Tsuruoka, T., M. Kawasaki, S. Ushioda, R. Franchy, Y. Naoi, T. Sugahara, S. Sakai and Y. Shintani, Combined HREELS/LEED study on the oxidation of GaN surfaces 427–428 (1999) 257

Ueba, H., see Mii 427–428 (1999) 324
Ushioda, S., see Sano 427–428 (1999) 131
Ushioda, S., see Tanaka 427–428 (1999) 147
Ushioda, S., see Tsuruoka 427–428 (1999) 257
Ushioda, S., see Kobayashi 427–428 (1999) 294
Usikov, A.S., see Sloboshanin 427–428 (1999) 250

Wada, A., see Bandara 427–428 (1999) 331
Wada, A., see Katano 427–428 (1999) 337
Wada, A., see Domen 427–428 (1999) 349
Wadayama, T., see Suzuki 427–428 (1999) 136
Wadayama, T., see Arigane 427–428 (1999) 304
Wadayama, T., see Tanabe 427–428 (1999) 414
Wakimoto, H., see Tanaka 427–428 (1999) 147
Wakita, T., see Suto 427–428 (1999) 85
Walter, E.J. and A.M. Rappe, Accurate and efficient determination of chemisorption energies using pseudopotentials 427–428 (1999) 11
Wan, L.-J., see Noda 427–428 (1999) 190
Wandelt, K., see Pelster 427–428 (1999) 398
Wandelt, K., see Becker 427–428 (1999) 403
Wang, J.-K., see Tsai 427–428 (1999) 318
Weightman, P., see Perry 427–428 (1999) 446
Wiame, F., see Silien 427–428 (1999) 79
Widdra, W., see Moritz 427–428 (1999) 64
Wilde, M., K. Fukutani, Y. Murata, M. Kampling, K. Al-Shamery and H.-J. Freund, Angular distributions of NO in laser-induced desorption from Pt(111) 427–428 (1999) 27

Xu, X., see Ren 427–428 (1999) 157

Yakovlev, V.A., see Mattei 427–428 (1999) 235
Yamamoto, M., Y. Sakurai, Y. Hosoi, H. Ishii, E. Ito, K. Kajikawa, Y. Ouchi and K. Seki, Physisorption of a long-chain *n*-alkane on Ag(111) surface: an infra-red reflection absorption spectroscopic study 427–428 (1999) 388
Yamanaka, T., Y. Shimizu, E. Kitayama and T. Matsushima, CO_2 desorption induced by photo-excitation, photo-reaction, and hot-atom collision on a stepped platinum (113) surface 427–428 (1999) 364
Yamashita, K., see Rokuta 427–428 (1999) 97
Yao, J.L., see Huang 427–428 (1999) 162
Yashima, T., see Nishiyama 427–428 (1999) 152
Yoshida, K., see Arigane 427–428 (1999) 304
Yoshinobu, J., see Kato 427–428 (1999) 69

Zheng, W.-Q., see Mazzara 427–428 (1999) 208

ELSEVIER

Surface Science 427–428 (1999) 457–466

surface science

www.elsevier.nl/locate/susc

Subject index

THEORETICAL METHODS, MODELS AND TECHNIQUES

Ab initio quantum chemical methods and calculations

E.J. Walter and A.M. Rappe, Accurate and efficient determination of chemisorption energies using pseudopotentials 427–428 (1999) 11

C.C. Perry, B.G. Frederick, J.R. Power, R.J. Cole, S. Haq, Q. Chen, N.V. Richardson and P. Weightman, Complementary vibrational and reflectance anisotropy spectroscopic determination of molecular azimuthal orientation 427–428 (1999) 446

Atom–solid interactions, scattering, diffraction

A.P. Graham and J.P. Toennies, Determination of the lateral potential energy surface of single adsorbed atoms and molecules on single crystal surfaces using helium atom scattering 427–428 (1999) 1

T. Miyake, I. Oodake and H. Petek, Lateral thermal expansion of Cu(110) surface studied with helium atom scattering 427–428 (1999) 39

Atomistic dynamics

U. Kürpick and T.S. Rahman, The role of vibrational entropy in surface diffusion: adatoms and vacancies on Ag(100), Cu(100), and Ni(100) 427–428 (1999) 15

Computer simulations

S.C. Park, W.K. Park and J.M. Bowman, Classical and quantum mechanical studies of the CO vibrations in CO/Cu(100) 427–428 (1999) 343

J. Heidberg, M. Hustedt, E. Kampshoff and V.M. Rozenbaum, Davydov and site symmetry splitting in polarized infrared spectra of ordered monolayers. A quantitative theoretical analysis of vibrational frequencies and integrated absorptions for CO_2 on NaCl(100) 427–428 (1999) 431

Construction and use of effective interatomic interactions

S.C. Park, W.K. Park and J.M. Bowman, Classical and quantum mechanical studies of the CO vibrations in CO/Cu(100) 427–428 (1999) 343

Density functional calculations

E.J. Walter and A.M. Rappe, Accurate and efficient determination of chemisorption energies using pseudopotentials 427–428 (1999) 11

M. Saito, Y. Miyamoto and A. Oshiyama, Stability and lattice vibrations of the clean diamond (111) surface 427–428 (1999) 53

J. Fritsch, M. Arnold, C. Eckl, R. Honke, P. Pavone and U. Schröder, Density-functional calculation of phonons in adsorbate-covered semiconductor surfaces 427–428 (1999) 58

J. Fritsch, O.F. Sankey, K.E. Schmidt and J.B. Page, Chemical reactions of ammonia with polar and non-polar nitride semiconductor surfaces 427–428 (1999) 298

Electron–solid interactions, scattering, diffraction

S. Sloboshanin, F.S. Tautz, V.M. Polyakov, U. Starke, A.S. Usikov, B.Ja. Ber and J.A. Schaefer, Structural, vibrational and electronic properties of faceted GaN(000$\bar{1}$) surfaces 427–428 (1999) 250

Models of non-linear phenomena

S. Ogawa, H. Nagano and H. Petek, Optical decoherence and quantum beats in Cs/Cu(111) 427–428 (1999) 34

H. Sano, G. Mizutani, S. Ushioda, T. Kitagawa, T. Kume and S. Hayashi, Enhancement of optical second harmonic response mediated by half-leaky guided modes 427–428 (1999) 131

T. Mii and H. Ueba, Influence of pulse duration on time-resolved sum-frequency generation on surface vibrations 427–428 (1999) 324

Models of surface chemical reactions

W.A. Diño, H. Kasai and A. Okiji, Rotational polarization and filtering of hydrogen molecules by metal surfaces isotope effects 427–428 (1999) 358

Molecular dynamics

A.P. Graham and J.P. Toennies, Determination of the lateral potential energy surface of single adsorbed atoms and molecules on single crystal surfaces using helium atom scattering 427–428 (1999) 1

J. Fritsch, O.F. Sankey, K.E. Schmidt and J.B. Page, Chemical reactions of ammonia with polar and non-polar nitride semiconductor surfaces 427–428 (1999) 298
T. Hayashi, A. Fricke, K. Katsura, C. Kodama and H. Nozoye, Adsorption state of diethyldisulfide on Au(111) studied with a combined system of HREELS and STM 427–428 (1999) 393

EXPERIMENTAL SAMPLE PREPARATION AND CHARACTERIZATION METHODS

Adsorption isotherms

M. Foster and G.E. Ewing, An infrared spectroscopic study of water thin films on NaCl(100) 427–428 (1999) 102

Atom–solid scattering and diffraction – elastic

A.L. Glebov, A.P. Graham and A. Menzel, Vibrational spectroscopy of water molecules on Pt(111) at submonolayer coverages 427–428 (1999) 22

Atom–solid scattering and diffraction – inelastic

A.P. Graham and J.P. Toennies, Determination of the lateral potential energy surface of single adsorbed atoms and molecules on single crystal surfaces using helium atom scattering 427–428 (1999) 1
A.L. Glebov, A.P. Graham and A. Menzel, Vibrational spectroscopy of water molecules on Pt(111) at submonolayer coverages 427–428 (1999) 22

Atomic force microscopy

J. Heidberg, A. Rugullies, I. Stahl and M. Thomas, Polarization infrared spectroscopic study of the influence of external lateral electric fields up to $8 \times 10^5\ V\ m^{-1}$ on the CO_2–NaCl(100) adsorbate 427–428 (1999) 426

Auger electron spectroscopy

G. Schmitz, M. Eumann, D. Stapel and R. Franchy, Combined EELS1STM study of the adsorption of nitric oxide and the formation of GaO_xN_y on CoGa(001) 427–428 (1999) 91
T. Hayashi, A. Fricke, K. Katsura, C. Kodama and H. Nozoye, Adsorption state of diethyldisulfide on Au(111) studied with a combined system of HREELS and STM 427–428 (1999) 393

Chemical vapor deposition

T. Angot and P. Louis, Metal–semiconductor transition observed by HREELS on the surface of $Si_{1-x}Ge_x$/Si(001) grown by CTL-CVD at 620 K 427–428 (1999) 224

Desorption induced by electronic transitions (DIET)

M. Wilde, K. Fukutani, Y. Murata, M. Kampling, K. Al-Shamery and H.-J. Freund, Angular distributions of NO in laser-induced desorption from Pt(111) 427–428 (1999) 27

Photon stimulated desorption (PSD)

T. Yamanaka, Y. Shimizu, E. Kitayama and T. Matsushima, CO_2 desorption induced by photo-excitation, photo-reaction, and hot-atom collision on a stepped platinum (113) surface 427–428 (1999) 364

Electrochemical methods

B. Ren, X. Xu, X.Q. Li, W.B. Cai and Z.Q. Tian, Extending surface Raman spectroscopic studies to transition metals for practical applications. II. Hydrogen adsorption at platinum electrodes 427–428 (1999) 157
F. Maroun, F. Ozanam and J.-N. Chazalviel, In situ infrared monitoring of hydrogen adsorption/desorption at a germanium electrode 427–428 (1999) 184
H. Noda, K. Ataka, L.-J. Wan and M. Osawa, Time-resolved surface-enhanced infra-red study of molecular adsorption at the electrochemical interface 427–428 (1999) 190
Y. Iwasaki, T. Horiuchi, M. Morita and O. Niwa, Electrochemical reaction of $Fe(CN)_6^{3-/4-}$ on gold electrodes analyzed by surface plasmon resonance 427–428 (1999) 195

Electron energy loss spectroscopy

T. Moritz, D. Menzel and W. Widdra, Collective vibrational modes of the high-density (1×1)-O phase on Ru(001) 427–428 (1999) 64
H. Kato, J. Yoshinobu and M. Kawai, Determination of six types of vibrational mode for bridge CO on Pd(110) 427–428 (1999) 69
K. Kishi, A. Oka, N. Takagi, M. Nishijima and T. Aruga, Structure and chemistry of Pd(100)-p(2 × 2)-p4g–Al surface alloy 427–428 (1999) 74
C. Silien, Y. Caudano, J.-L. Longueville, S. Bouzidi, F. Wiame, A. Peremans and P.A. Thiry, HREELS, IR and SFG investigation of undoped and doped adsorbed fullerenes 427–428 (1999) 79
S. Suto, K. Sakamoto, D. Kondo, T. Wakita, A. Kimura and A. Kakizaki, Bonding nature of C_{60} adsorbed on Si(111)7 × 7 and Si(100)2 × 1 surfaces studied by HREELS and PES 427–428 (1999) 85
G. Schmitz, M. Eumann, D. Stapel and R. Franchy, Combined EELS1STM study of the adsorption of nitric oxide and the formation of GaO_xN_y on CoGa(001) 427–428 (1999) 91
E. Rokuta, Y. Hasegawa, A. Itoh, K. Yamashita, T. Tanaka, S. Otani and C. Oshima, Vibrational spectra of the monolayer films of hexagonal boron nitride and graphite on faceted Ni(755) 427–428 (1999) 97
P. Kambhampati and A. Campion, Surface enhanced Raman scattering as a probe of adsorbate–substrate charge-transfer excitations 427–428 (1999) 115
T. Angot and P. Louis, Metal–semiconductor transition observed by HREELS on the surface of $Si_{1-x}Ge_x$/Si(001) grown by CTL-CVD at 620 K 427–428 (1999) 224
S. Sloboshanin, F.S. Tautz, V.M. Polyakov, U. Starke, A.S. Usikov, B.Ja. Ber and J.A. Schaefer, Structural, vibrational and electronic properties of faceted GaN(000$\bar{1}$) surfaces 427–428 (1999) 250
T. Tsuruoka, M. Kawasaki, S. Ushioda, R. Franchy, Y. Naoi, T. Sugahara, S. Sakai and Y. Shintani, Combined

HREELS/LEED study on the oxidation of GaN surfaces 427–428 (1999) 257

L. Constant, B. Krenzer, W. Stenzel, H. Conrad and A.M. Bradshaw, The formation of carbonate on Ag(110) studied by high-resolution EELS 427–428 (1999) 262

T. Hayashi, A. Fricke, K. Katsura, C. Kodama and H. Nozoye, Adsorption state of diethyldisulfide on Au(111) studied with a combined system of HREELS and STM 427–428 (1999) 393

T. Pelster, C. Becker, M. Tanemura, J. Breitbach and K. Wandelt, Adsorption properties of ethene on $Pt_3Cu(111)$ 427–428 (1999) 398

C. Becker, T. Pelster, M. Tanemura, J. Breitbach and K. Wandelt, CO adsorption on $Cu_3Pt(111)$ and $CuPt_3(111)$: a comparative HREELS study 427–428 (1999) 403

T. Sasaki, R. Tero, T. Sueyoshi and Y. Iwasawa, CO-induced destruction of Cu(100)–(2 × 1)Li studied by HREELS 427–428 (1999) 408

C.C. Perry, B.G. Frederick, J.R. Power, R.J. Cole, S. Haq, Q. Chen, N.V. Richardson and P. Weightman, Complementary vibrational and reflectance anisotropy spectroscopic determination of molecular azimuthal orientation 427–428 (1999) 446

Electron–solid diffraction

Low energy electron diffraction (LEED)

H. Kato, J. Yoshinobu and M. Kawai, Determination of six types of vibrational mode for bridge CO on Pd(110) 427–428 (1999) 69

G. Schmitz, M. Eumann, D. Stapel and R. Franchy, Combined EELS1STM study of the adsorption of nitric oxide and the formation of GaO_xN_y on CoGa(001) 427–428 (1999) 91

S. Sloboshanin, F.S. Tautz, V.M. Polyakov, U. Starke, A.S. Usikov, B.Ja. Ber and J.A. Schaefer, Structural, vibrational and electronic properties of faceted GaN(000$\bar{1}$) surfaces 427–428 (1999) 250

T. Tsuruoka, M. Kawasaki, S. Ushioda, R. Franchy, Y. Naoi, T. Sugahara, S. Sakai and Y. Shintani, Combined HREELS/LEED study on the oxidation of GaN surfaces 427–428 (1999) 257

J. Heidberg and H. Henseler, The physisorption of CO_2 and the stepwise chemisorption of SO_2 on the CsF(100) single crystal surface 427–428 (1999) 439

Reflection high-energy electron diffraction (RHEED)

T. Tanabe, Y. Suzuki, T. Wadayama and A. Hatta, Carbon monoxide adsorption on ultra-thin Fe film deposited on Cu(100) 427–428 (1999) 414

Electron–solid scattering and transmission – inelastic

T. Bitzer and N.V. Richardson, The influence of coadsorbed sodium atoms on the chemisorption of benzoic acid on Si(100)-2 × 1 427–428 (1999) 369

Ellipsometry

H. Akazawa, Formation and decomposition of a Si hydride layer during vacuum ultraviolet-excited Si homoepitaxy from disilane 427–428 (1999) 214

Isotopic exchange/traces

T. Arigane, K. Yoshida, T. Wadayama and A. Hatta, In situ FT-IR and photoluminescence study of porous silicon during exposure to F_2, H_2O, and D_2O 427–428 (1999) 304

Laser methods

K. Ajito and M. Morita, Imaging and spectroscopic analysis of single microdroplets containing *p*-cresol using the near-infrared laser tweezers/Raman microprobe system 427–428 (1999) 141

Molecule–solid reactions

W.A. Diño, H. Kasai and A. Okiji, Rotational polarization and filtering of hydrogen molecules by metal surfaces isotope effects 427–428 (1999) 358

Non-linear optical methods

H. Tanaka, H. Wakimoto, T. Miyazaki, G. Mizutani and S. Ushioda, Excitation energy profile of the SH intensity from a glass–Au interface 427–428 (1999) 147

T. Mii and H. Ueba, Influence of pulse duration on time-resolved sum-frequency generation on surface vibrations 427–428 (1999) 324

A. Bandara, J. Kubota, K. Onda, A. Wada, S.S. Kano, K. Domen and C. Hirose, Time-resolved SFG study of the vibrational excitation of adsorbed CO on Ni(111) and NiO(111) surfaces under the irradiation of UV and visible photons 427–428 (1999) 331

S. Katano, A. Bandara, J. Kubota, K. Onda, A. Wada, K. Domen and C. Hirose, Screening of SFG signals from bridged CO on Ni(111) by the coexistence of linear CO 427–428 (1999) 337

Second harmonic generation

H. Sano, G. Mizutani, S. Ushioda, T. Kitagawa, T. Kume and S. Hayashi, Enhancement of optical second harmonic response mediated by half-leaky guided modes 427–428 (1999) 131

H. Tanaka, H. Wakimoto, T. Miyazaki, G. Mizutani and S. Ushioda, Excitation energy profile of the SH intensity from a glass–Au interface 427–428 (1999) 147

E. Kobayashi, K. Matsuda, G. Mizutani and S. Ushioda, SHG observation of *rutile* $TiO_2(110)/H_2O$ interface under UV light illumination 427–428 (1999) 294

Sum frequency generation

C. Silien, Y. Caudano, J.-L. Longueville, S. Bouzidi, F. Wiame, A. Peremans and P.A. Thiry, HREELS, IR and SFG investigation of undoped and doped adsorbed fullerenes 427–428 (1999) 79

H. Tanaka, H. Wakimoto, T. Miyazaki, G. Mizutani and S. Ushioda, Excitation energy profile of the SH intensity from a glass–Au interface 427–428 (1999) 147
T. Mii and H. Ueba, Influence of pulse duration on time-resolved sum-frequency generation on surface vibrations 427–428 (1999) 324
A. Bandara, J. Kubota, K. Onda, A. Wada, S.S. Kano, K. Domen and C. Hirose, Time-resolved SFG study of the vibrational excitation of adsorbed CO on Ni(111) and NiO(111) surfaces under the irradiation of UV and visible photons 427–428 (1999) 331
S. Katano, A. Bandara, J. Kubota, K. Onda, A. Wada, K. Domen and C. Hirose, Screening of SFG signals from bridged CO on Ni(111) by the coexistence of linear CO 427–428 (1999) 337

Photoelectron spectroscopy

S. Ogawa, H. Nagano and H. Petek, Optical decoherence and quantum beats in Cs/Cu(111) 427–428 (1999) 34
S. Suto, K. Sakamoto, D. Kondo, T. Wakita, A. Kimura and A. Kakizaki, Bonding nature of C_{60} adsorbed on Si(111)7 × 7 and Si(100)2 × 1 surfaces studied by HREELS and PES 427–428 (1999) 85
A. Asano, T. Kubota, Y. Nishioka and H. Kobayashi, Dependence of interface states for ultra-thin SiO_2/Si interfaces on the oxide atomic density determined from FTIR measurements 427–428 (1999) 219

Visible and ultraviolet photoelectron spectroscopy

S. Ogawa, H. Nagano and H. Petek, Optical decoherence and quantum beats in Cs/Cu(111) 427–428 (1999) 34

X-ray photoelectron spectroscopy

A. Asano, T. Kubota, Y. Nishioka and H. Kobayashi, Dependence of interface states for ultra-thin SiO_2/Si interfaces on the oxide atomic density determined from FTIR measurements 427–428 (1999) 219
S. Sloboshanin, F.S. Tautz, V.M. Polyakov, U. Starke, A.S. Usikov, B.Ja. Ber and J.A. Schaefer, Structural, vibrational and electronic properties of faceted GaN(000$\bar{1}$) surfaces 427–428 (1999) 250

Photon absorption spectroscopy

M. Foster and G.E. Ewing, An infrared spectroscopic study of water thin films on NaCl(100) 427–428 (1999) 102
Y. Shingaya, H. Kubo and M. Ito, Coadsorption of ammonia and electrolyte anions on a Pt(111) electrode 427–428 (1999) 173
M. Futamata, In-situ ATR-IR study of water on gold electrode surface 427–428 (1999) 179
A. Asano, T. Kubota, Y. Nishioka and H. Kobayashi, Dependence of interface states for ultra-thin SiO_2/Si interfaces on the oxide atomic density determined from FTIR measurements 427–428 (1999) 219
J. Heidberg, A. Rugullies, I. Stahl and M. Thomas, Polarization infrared spectroscopic study of the influence of external lateral electric fields up to 8×10^5 V m^{-1} on the CO_2–NaCl(100) adsorbate 427–428 (1999) 426

Infrared absorption spectroscopy

C. Silien, Y. Caudano, J.-L. Longueville, S. Bouzidi, F. Wiame, A. Peremans and P.A. Thiry, HREELS, IR and SFG investigation of undoped and doped adsorbed fullerenes 427–428 (1999) 79
M. Foster and G.E. Ewing, An infrared spectroscopic study of water thin films on NaCl(100) 427–428 (1999) 102
D.A. Myrzakozha, T. Hasegawa, J. Nishijo, T. Imae and Y. Ozaki, Infrared studies of mixed Langmuir–Blodgett monolayers of octadecyldimethylamine oxide and dioctadecyldimethylammonium chloride with arachidic acid and poly(acrylic acid) 427–428 (1999) 107
Y. Suzuki, H. Seki, T. Inamura, T. Tanabe, T. Wadayama and A. Hatta, Thickness dependence of infra-red absorption enhancement for methanol on evaporated silver films 427–428 (1999) 136
M. Nakamura, M.-B. Song and M. Ito, Adsorption of urea on Au(100) and Au(111) electrode surfaces studies by in-situ Fourier-transform infra-red spectroscopy 427–428 (1999) 167
Y. Shingaya, H. Kubo and M. Ito, Coadsorption of ammonia and electrolyte anions on a Pt(111) electrode 427–428 (1999) 173
M. Futamata, In-situ ATR-IR study of water on gold electrode surface 427–428 (1999) 179
F. Maroun, F. Ozanam and J.-N. Chazalviel, In situ infrared monitoring of hydrogen adsorption/desorption at a germanium electrode 427–428 (1999) 184
H. Noda, K. Ataka, L.-J. Wan and M. Osawa, Time-resolved surface-enhanced infra-red study of molecular adsorption at the electrochemical interface 427–428 (1999) 190
M. Niwano, In-situ IR observation of etching and oxidation processes of Si surfaces 427–428 (1999) 199
A. Asano, T. Kubota, Y. Nishioka and H. Kobayashi, Dependence of interface states for ultra-thin SiO_2/Si interfaces on the oxide atomic density determined from FTIR measurements 427–428 (1999) 219
Y. Kobayashi, K. Sumitomo and T. Ogino, Observation of Ge surface segregation during Si-MBE on Ge/Si(001) probed by Si–H/Ge–H surface vibrations 427–428 (1999) 229
L. Ley, B.F. Mantel, K. Matura, M. Stammler, K. Janischowsky and J. Ristein, Infrared spectroscopy of C–D vibrational modes on diamond (100) surfaces 427–428 (1999) 245
M. Frank, R. Kühnemuth, M. Bäumer and H.-J. Freund, Oxide-supported Rh particle structure probed with carbon monoxide 427–428 (1999) 288
T. Arigane, K. Yoshida, T. Wadayama and A. Hatta, In situ FT-IR and photoluminescence study of porous silicon during exposure to F_2, H_2O, and D_2O 427–428 (1999) 304
P. Jakob, Lateral interactions in (NO + O) coadsorbate layers on Ru(001): fundamental and overtone modes 427–428 (1999) 309

M. Akita, N. Osaka, S. Hiramoto and K. Itoh, Infrared reflection absorption spectroscopic study on the adsorption structures of ethylene on Ag(110) and atomic oxygen precovered Ag(110) surfaces 427–428 (1999) 374
N. Osaka, M. Akita, S. Hiramoto and K. Itoh, Infrared reflection–absorption spectroscopic study on the adsorption structures of acrylonitrile on Ag(111) and Ag(110) surfaces 427–428 (1999) 381
M. Yamamoto, Y. Sakurai, Y. Hosoi, H. Ishii, E. Ito, K. Kajikawa, Y. Ouchi and K. Seki, Physisorption of a long-chain *n*-alkane on Ag(111) surface: an infra-red reflection absorption spectroscopic study 427–428 (1999) 388
T. Tanabe, Y. Suzuki, T. Wadayama and A. Hatta, Carbon monoxide adsorption on ultra-thin Fe film deposited on Cu(100) 427–428 (1999) 414
J. Heidberg, A. Rugullies, I. Stahl and M. Thomas, Polarization infrared spectroscopic study of the influence of external lateral electric fields up to 8×10^5 V m^{-1} on the CO_2–NaCl(100) adsorbate 427–428 (1999) 426
J. Heidberg, M. Hustedt, E. Kampshoff and V.M. Rozenbaum, Davydov and site symmetry splitting in polarized infrared spectra of ordered monolayers. A quantitative theoretical analysis of vibrational frequencies and integrated absorptions for CO_2 on NaCl(100) 427–428 (1999) 431
J. Heidberg and H. Henseler, The physisorption of CO_2 and the stepwise chemisorption of SO_2 on the CsF(100) single crystal surface 427–428 (1999) 439

Visible/ultraviolet absorption spectroscopy

Y.M. Jung, H. Sato, T. Ikeda, H. Tashiro and Y. Ozaki, Surface-enhanced Raman scattering study of organic thin films of 2-octadecyl-7,7,8,8-tetracyanoquinodimethane and its charge transfer films doped with 3,3′,5,5′-tetramethylbenzidine 427–428 (1999) 111

Raman scattering spectroscopy

N. Esser, K. Hinrichs, J.R. Power and W. Richter, High-resolution analysis of semiconductor surface phonons by Raman spectroscopy 427–428 (1999) 44
Y.M. Jung, H. Sato, T. Ikeda, H. Tashiro and Y. Ozaki, Surface-enhanced Raman scattering study of organic thin films of 2-octadecyl-7,7,8,8-tetracyanoquinodimethane and its charge transfer films doped with 3,3′,5,5′-tetramethylbenzidine 427–428 (1999) 111
K. Ajito and M. Morita, Imaging and spectroscopic analysis of single microdroplets containing *p*-cresol using the near-infrared laser tweezers/Raman microprobe system 427–428 (1999) 141
B. Ren, X. Xu, X.Q. Li, W.B. Cai and Z.Q. Tian, Extending surface Raman spectroscopic studies to transition metals for practical applications. II. Hydrogen adsorption at platinum electrodes 427–428 (1999) 157
Q.J. Huang, X.Q. Li, J.L. Yao, B. Ren, W.B. Cai, J.S. Gao, B.W. Mao and Z.Q. Tian, Extending surface Raman spectroscopic studies to transition metals for practical applications. III. Effects of surface roughening procedure on surface-enhanced Raman spectroscopy from nickel and platinum electrodes 427–428 (1999) 162
T. Arigane, K. Yoshida, T. Wadayama and A. Hatta, In situ FT-IR and photoluminescence study of porous silicon during exposure to F_2, H_2O, and D_2O 427–428 (1999) 304
C.-S. Tsai, C. Chen, C.-E. Lin, J.-C. Lin and J.-K. Wang, Surface Raman scattering study on the hydrogenated semiconductor surfaces: vibrational dephasing dynamics 427–428 (1999) 318

Reflection spectroscopy

T.S. Nunney, J.J. Birtill and R. Raval, Infrared studies of submonolayer methylamine and trimethylamine adsorption on Ni(111) 427–428 (1999) 282
P. Jakob, Lateral interactions in (NO + O) coadsorbate layers on Ru(001): fundamental and overtone modes 427–428 (1999) 309
C.C. Perry, B.G. Frederick, J.R. Power, R.J. Cole, S. Haq, Q. Chen, N.V. Richardson and P. Weightman, Complementary vibrational and reflectance anisotropy spectroscopic determination of molecular azimuthal orientation 427–428 (1999) 446

Scanning tunneling microscopy

K. Kishi, A. Oka, N. Takagi, M. Nishijima and T. Aruga, Structure and chemistry of Pd(100)-p(2 × 2)-p4g–Al surface alloy 427–428 (1999) 74
G. Schmitz, M. Eumann, D. Stapel and R. Franchy, Combined EELS/STM study of the adsorption of nitric oxide and the formation of GaO_xN_y on CoGa(001) 427–428 (1999) 91
T. Hayashi, A. Fricke, K. Katsura, C. Kodama and H. Nozoye, Adsorption state of diethyldisulfide on Au(111) studied with a combined system of HREELS and STM 427–428 (1999) 393

Thermal desorption spectroscopy

H. Okuyama, T. Nakagawa, W. Siga, N. Takagi, M. Nishijima and T. Aruga, A new reaction channel in H(g) + D(a)/Pd(100): absorption versus abstraction 427–428 (1999) 277

PHENOMENA

Adsorption kinetics

H. Noda, K. Ataka, L.-J. Wan and M. Osawa, Time-resolved surface-enhanced infra-red study of molecular adsorption at the electrochemical interface 427–428 (1999) 190
J. Fritsch, O.F. Sankey, K.E. Schmidt and J.B. Page, Chemical reactions of ammonia with polar and non-polar nitride semiconductor surfaces 427–428 (1999) 298
T. Hayashi, A. Fricke, K. Katsura, C. Kodama and H. Nozoye, Adsorption state of diethyldisulfide on Au(111) studied with a combined system of HREELS and STM 427–428 (1999) 393

G.H. Ryu, S.C. Park and S.-B. Lee, Molecular orbital study of the interactions of CO molecules adsorbed on a W(111) surface 427–428 (1999) 419

Atom–solid interactions

E.J. Walter and A.M. Rappe, Accurate and efficient determination of chemisorption energies using pseudopotentials 427–428 (1999) 11
C. Mazzara, J. Jupille, W.-Q. Zheng, M. Tanguy, A. Tadjeddine and P. Dumas, Hydrogen-terminated Si(111) and Si(100) by wet chemical treatment: linear and non-linear infrared spectroscopy 427–428 (1999) 208
L. Ley, B.F. Mantel, K. Matura, M. Stammler, K. Janischowsky and J. Ristein, Infrared spectroscopy of C–D vibrational modes on diamond (100) surfaces 427–428 (1999) 245

Catalysis

H. Nishiyama, N. Saito, T. Yashima, K. Sato and Y. Inoue, Effect of shear horizontal leaky surface acoustic wave on selectivity for ethanol decomposition of a copper thin-film catalyst deposited on a positively polarized ferroelectric $LiTaO_3$ single crystal 427–428 (1999) 152
C. Egawa, S. Oki, M. Kaneko, N. Minami and I. Suzuki, Ethylene hydrogenation on a Ni(100) surface 427–428 (1999) 268

Chemisorption

E.J. Walter and A.M. Rappe, Accurate and efficient determination of chemisorption energies using pseudopotentials 427–428 (1999) 11
M. Wilde, K. Fukutani, Y. Murata, M. Kampling, K. Al-Shamery and H.-J. Freund, Angular distributions of NO in laser-induced desorption from Pt(111) 427–428 (1999) 27
J. Fritsch, M. Arnold, C. Eckl, R. Honke, P. Pavone and U. Schröder, Density-functional calculation of phonons in adsorbate-covered semiconductor surfaces 427–428 (1999) 58
H. Kato, J. Yoshinobu and M. Kawai, Determination of six types of vibrational mode for bridge CO on Pd(110) 427–428 (1999) 69
K. Kishi, A. Oka, N. Takagi, M. Nishijima and T. Aruga, Structure and chemistry of Pd(100)-p(2 × 2)-p4g–Al surface alloy 427–428 (1999) 74
C. Silien, Y. Caudano, J.-L. Longueville, S. Bouzidi, F. Wiame, A. Peremans and P.A. Thiry, HREELS, IR and SFG investigation of undoped and doped adsorbed fullerenes 427–428 (1999) 79
S. Suto, K. Sakamoto, D. Kondo, T. Wakita, A. Kimura and A. Kakizaki, Bonding nature of C_{60} adsorbed on Si(111)7 × 7 and Si(100)2 × 1 surfaces studied by HREELS and PES 427–428 (1999) 85
B. Ren, X. Xu, X.Q. Li, W.B. Cai and Z.Q. Tian, Extending surface Raman spectroscopic studies to transition metals for practical applications. II. Hydrogen adsorption at platinum electrodes 427–428 (1999) 157
Q.J. Huang, X.Q. Li, J.L. Yao, B. Ren, W.B. Cai, J.S. Gao, B.W. Mao and Z.Q. Tian, Extending surface Raman spectroscopic studies to transition metals for practical applications. III. Effects of surface roughening procedure on surface-enhanced Raman spectroscopy from nickel and platinum electrodes 427–428 (1999) 162
H. Noda, K. Ataka, L.-J. Wan and M. Osawa, Time-resolved surface-enhanced infra-red study of molecular adsorption at the electrochemical interface 427–428 (1999) 190
T. Angot and P. Louis, Metal–semiconductor transition observed by HREELS on the surface of $Si_{1-x}Ge_x$/Si(001) grown by CTL-CVD at 620 K 427–428 (1999) 224
T.S. Nunney, J.J. Birtill and R. Raval, Infrared studies of submonolayer methylamine and trimethylamine adsorption on Ni(111) 427–428 (1999) 282
M. Frank, R. Kühnemuth, M. Bäumer and H.-J. Freund, Oxide-supported Rh particle structure probed with carbon monoxide 427–428 (1999) 288
J. Fritsch, O.F. Sankey, K.E. Schmidt and J.B. Page, Chemical reactions of ammonia with polar and non-polar nitride semiconductor surfaces 427–428 (1999) 298
P. Jakob, Lateral interactions in (NO + O) coadsorbate layers on Ru(001): fundamental and overtone modes 427–428 (1999) 309
S.C. Park, W.K. Park and J.M. Bowman, Classical and quantum mechanical studies of the CO vibrations in CO/Cu(100) 427–428 (1999) 343
W.A. Diño, H. Kasai and A. Okiji, Rotational polarization and filtering of hydrogen molecules by metal surfaces isotope effects 427–428 (1999) 358
T. Bitzer and N.V. Richardson, The influence of coadsorbed sodium atoms on the chemisorption of benzoic acid on Si(100)-2 × 1 427–428 (1999) 369
T. Hayashi, A. Fricke, K. Katsura, C. Kodama and H. Nozoye, Adsorption state of diethyldisulfide on Au(111) studied with a combined system of HREELS and STM 427–428 (1999) 393
T. Pelster, C. Becker, M. Tanemura, J. Breitbach and K. Wandelt, Adsorption properties of ethene on $Pt_3Cu(111)$ 427–428 (1999) 398
C. Becker, T. Pelster, M. Tanemura, J. Breitbach and K. Wandelt, CO adsorption on $Cu_3Pt(111)$ and $CuPt_3(111)$: a comparative HREELS study 427–428 (1999) 403
T. Sasaki, R. Tero, T. Sueyoshi and Y. Iwasawa, CO-induced destruction of Cu(100)–(2 × 1)Li studied by HREELS 427–428 (1999) 408
T. Tanabe, Y. Suzuki, T. Wadayama and A. Hatta, Carbon monoxide adsorption on ultra-thin Fe film deposited on Cu(100) 427–428 (1999) 414
J. Heidberg and H. Henseler, The physisorption of CO_2 and the stepwise chemisorption of SO_2 on the CsF(100) single crystal surface 427–428 (1999) 439

Dielectric phenomena

H. Akazawa, Formation and decomposition of a Si hydride layer during vacuum ultraviolet-excited Si homoepitaxy from disilane 427–428 (1999) 214

Diffusion and migration

A.P. Graham and J.P. Toennies, Determination of the lateral potential energy surface of single adsorbed atoms and molecules on single crystal surfaces using helium atom scattering 427–428 (1999) 1

U. Kürpick and T.S. Rahman, The role of vibrational entropy in surface diffusion: adatoms and vacancies on Ag(100), Cu(100), and Ni(100) 427–428 (1999) 15

Epitaxy

K. Kishi, A. Oka, N. Takagi, M. Nishijima and T. Aruga, Structure and chemistry of Pd(100)-p(2 × 2)-p4g–Al surface alloy 427–428 (1999) 74

T. Tanabe, Y. Suzuki, T. Wadayama and A. Hatta, Carbon monoxide adsorption on ultra-thin Fe film deposited on Cu(100) 427–428 (1999) 414

Faceting

E. Rokuta, Y. Hasegawa, A. Itoh, K. Yamashita, T. Tanaka, S. Otani and C. Oshima, Vibrational spectra of the monolayer films of hexagonal boron nitride and graphite on faceted Ni(755) 427–428 (1999) 97

S. Sloboshanin, F.S. Tautz, V.M. Polyakov, U. Starke, A.S. Usikov, B.Ja. Ber and J.A. Schaefer, Structural, vibrational and electronic properties of faceted GaN(000$\bar{1}$) surfaces 427–428 (1999) 250

Field effect

J. Heidberg, A. Rugullies, I. Stahl and M. Thomas, Polarization infrared spectroscopic study of the influence of external lateral electric fields up to 8×10^5 V m^{-1} on the CO_2–NaCl(100) adsorbate 427–428 (1999) 426

Growth

G. Schmitz, M. Eumann, D. Stapel and R. Franchy, Combined EELS1STM study of the adsorption of nitric oxide and the formation of GaO_xN_y on CoGa(001) 427–428 (1999) 91

H. Akazawa, Formation and decomposition of a Si hydride layer during vacuum ultraviolet-excited Si homoepitaxy from disilane 427–428 (1999) 214

Interface states

A. Asano, T. Kubota, Y. Nishioka and H. Kobayashi, Dependence of interface states for ultra-thin SiO_2/Si interfaces on the oxide atomic density determined from FTIR measurements 427–428 (1999) 219

Luminescence

Photoluminescence

T. Arigane, K. Yoshida, T. Wadayama and A. Hatta, In situ FT-IR and photoluminescence study of porous silicon during exposure to F_2, H_2O, and D_2O 427–428 (1999) 304

Oxidation

G. Schmitz, M. Eumann, D. Stapel and R. Franchy, Combined EELS/STM study of the adsorption of nitric oxide and the formation of GaO_xN_y on CoGa(001) 427–428 (1999) 91

M. Nakamura, M.-B. Song and M. Ito, Adsorption of urea on Au(100) and Au(111) electrode surfaces studies by in-situ Fourier-transform infra-red spectroscopy 427–428 (1999) 167

A. Asano, T. Kubota, Y. Nishioka and H. Kobayashi, Dependence of interface states for ultra-thin SiO_2/Si interfaces on the oxide atomic density determined from FTIR measurements 427–428 (1999) 219

T. Tsuruoka, M. Kawasaki, S. Ushioda, R. Franchy, Y. Naoi, T. Sugahara, S. Sakai and Y. Shintani, Combined HREELS/LEED study on the oxidation of GaN surfaces 427–428 (1999) 257

G. Cao, G. Moula, Y. Ohno and T. Matsushima, Site switching in steady state carbon monoxide oxidation on platinum(113) 427–428 (1999) 272

Photochemistry

H. Akazawa, Formation and decomposition of a Si hydride layer during vacuum ultraviolet-excited Si homoepitaxy from disilane 427–428 (1999) 214

E. Kobayashi, K. Matsuda, G. Mizutani and S. Ushioda, SHG observation of *rutile* $TiO_2(110)/H_2O$ interface under UV light illumination 427–428 (1999) 294

Photoconductivity

C.-S. Jiang and S. Hasegawa, Photoconductivity of the Si(111)-7 × 7 and $\sqrt{3} \times \sqrt{3}$-Ag surfaces 427–428 (1999) 239

Photoelectron emission

S. Ogawa, H. Nagano and H. Petek, Optical decoherence and quantum beats in Cs/Cu(111) 427–428 (1999) 34

H. Nishiyama, N. Saito, T. Yashima, K. Sato and Y. Inoue, Effect of shear horizontal leaky surface acoustic wave on selectivity for ethanol decomposition of a copper thin-film catalyst deposited on a positively polarized ferroelectric $LiTaO_3$ single crystal 427–428 (1999) 152

Photon stimulated desorption

M. Wilde, K. Fukutani, Y. Murata, M. Kampling, K. Al-Shamery and H.-J. Freund, Angular distributions of NO in laser-induced desorption from Pt(111) 427–428 (1999) 27

Physical adsorption

M. Foster and G.E. Ewing, An infrared spectroscopic study of water thin films on NaCl(100) 427–428 (1999) 102

T. Yamanaka, Y. Shimizu, E. Kitayama and T. Matsushima, CO_2 desorption induced by photo-excitation, photoreaction, and hot-atom collision on a stepped platinum (113) surface 427–428 (1999) 364

M. Akita, N. Osaka, S. Hiramoto and K. Itoh, Infrared reflection absorption spectroscopic study on the adsorption structures of ethylene on Ag(110) and atomic oxygen precovered Ag(110) surfaces 427–428 (1999) 374

M. Yamamoto, Y. Sakurai, Y. Hosoi, H. Ishii, E. Ito, K. Kajikawa, Y. Ouchi and K. Seki, Physisorption of a long-

chain *n*-alkane on Ag(111) surface: an infra-red reflection absorption spectroscopic study 427–428 (1999) 388
J. Heidberg, A. Rugullies, I. Stahl and M. Thomas, Polarization infrared spectroscopic study of the influence of external lateral electric fields up to 8×10^5 V m^{-1} on the CO_2–NaCl(100) adsorbate 427–428 (1999) 426
J. Heidberg, M. Hustedt, E. Kampshoff and V.M. Rozenbaum, Davydov and site symmetry splitting in polarized infrared spectra of ordered monolayers. A quantitative theoretical analysis of vibrational frequencies and integrated absorptions for CO_2 on NaCl(100) 427–428 (1999) 431

Piezoelectric effect

H. Nishiyama, N. Saito, T. Yashima, K. Sato and Y. Inoue, Effect of shear horizontal leaky surface acoustic wave on selectivity for ethanol decomposition of a copper thin-film catalyst deposited on a positively polarized ferroelectric $LiTaO_3$ single crystal 427–428 (1999) 152

Quantum effects

S. Ogawa, H. Nagano and H. Petek, Optical decoherence and quantum beats in Cs/Cu(111) 427–428 (1999) 34
S.C. Park, W.K. Park and J.M. Bowman, Classical and quantum mechanical studies of the CO vibrations in CO/Cu(100) 427–428 (1999) 343
W.A. Diño, H. Kasai and A. Okiji, Rotational polarization and filtering of hydrogen molecules by metal surfaces isotope effects 427–428 (1999) 358

Second harmonic generation

H. Sano, G. Mizutani, S. Ushioda, T. Kitagawa, T. Kume and S. Hayashi, Enhancement of optical second harmonic response mediated by half-leaky guided modes 427–428 (1999) 131
H. Tanaka, H. Wakimoto, T. Miyazaki, G. Mizutani and S. Ushioda, Excitation energy profile of the SH intensity from a glass–Au interface 427–428 (1999) 147

Self-assembly

T. Hayashi, A. Fricke, K. Katsura, C. Kodama and H. Nozoye, Adsorption state of diethyldisulfide on Au(111) studied with a combined system of HREELS and STM 427–428 (1999) 393

Surface chemical reaction

F. Maroun, F. Ozanam and J.-N. Chazalviel, In situ infrared monitoring of hydrogen adsorption/desorption at a germanium electrode 427–428 (1999) 184
M. Niwano, In-situ IR observation of etching and oxidation processes of Si surfaces 427–428 (1999) 199
C. Mazzara, J. Jupille, W.-Q. Zheng, M. Tanguy, A. Tadjeddine and P. Dumas, Hydrogen-terminated Si(111) and Si(100) by wet chemical treatment: linear and non-linear infrared spectroscopy 427–428 (1999) 208
L. Constant, B. Krenzer, W. Stenzel, H. Conrad and A.M. Bradshaw, The formation of carbonate on Ag(110) studied by high-resolution EELS 427–428 (1999) 262
H. Okuyama, T. Nakagawa, W. Siga, N. Takagi, M. Nishijima and T. Aruga, A new reaction channel in H(g) + D(a)/Pd(100): absorption versus abstraction 427–428 (1999) 277
S.C. Park, W.K. Park and J.M. Bowman, Classical and quantum mechanical studies of the CO vibrations in CO/Cu(100) 427–428 (1999) 343
W.A. Diño, H. Kasai and A. Okiji, Rotational polarization and filtering of hydrogen molecules by metal surfaces isotope effects 427–428 (1999) 358
T. Yamanaka, Y. Shimizu, E. Kitayama and T. Matsushima, CO_2 desorption induced by photo-excitation, photoreaction, and hot-atom collision on a stepped platinum (113) surface 427–428 (1999) 364
J. Heidberg and H. Henseler, The physisorption of CO_2 and the stepwise chemisorption of SO_2 on the CsF(100) single crystal surface 427–428 (1999) 439

Surface electrical transport (surface conductivity, surface recombination, etc.)

C.-S. Jiang and S. Hasegawa, Photoconductivity of the Si(111)-7×7 and $\sqrt{3} \times \sqrt{3}$-Ag surfaces 427–428 (1999) 239

Surface electronic phenomena (work function, surface potential, surface states, etc.)

S. Ogawa, H. Nagano and H. Petek, Optical decoherence and quantum beats in Cs/Cu(111) 427–428 (1999) 34
S. Suto, K. Sakamoto, D. Kondo, T. Wakita, A. Kimura and A. Kakizaki, Bonding nature of C_{60} adsorbed on Si(111)7×7 and Si(100)2×1 surfaces studied by HREELS and PES 427–428 (1999) 85
H. Tanaka, H. Wakimoto, T. Miyazaki, G. Mizutani and S. Ushioda, Excitation energy profile of the SH intensity from a glass–Au interface 427–428 (1999) 147
F. Maroun, F. Ozanam and J.-N. Chazalviel, In situ infrared monitoring of hydrogen adsorption/desorption at a germanium electrode 427–428 (1999) 184
C.-S. Jiang and S. Hasegawa, Photoconductivity of the Si(111)-7×7 and $\sqrt{3} \times \sqrt{3}$-Ag surfaces 427–428 (1999) 239

Surface relaxation and reconstruction

T. Miyake, I. Oodake and H. Petek, Lateral thermal expansion of Cu(110) surface studied with helium atom scattering 427–428 (1999) 39
M. Saito, Y. Miyamoto and A. Oshiyama, Stability and lattice vibrations of the clean diamond (111) surface 427–428 (1999) 53
J. Fritsch, M. Arnold, C. Eckl, R. Honke, P. Pavone and U. Schröder, Density-functional calculation of phonons in adsorbate-covered semiconductor surfaces 427–428 (1999) 58

Surface segregation

Y. Kobayashi, K. Sumitomo and T. Ogino, Observation of Ge

surface segregation during Si-MBE on Ge/Si(001) probed by Si–H/Ge–H surface vibrations 427–428 (1999) 229

Surface structure, morphology, roughness, and topography

K. Kishi, A. Oka, N. Takagi, M. Nishijima and T. Aruga, Structure and chemistry of Pd(100)-p(2 × 2)-p4g–Al surface alloy 427–428 (1999) 74

D.A. Myrzakozha, T. Hasegawa, J. Nishijo, T. Imae and Y. Ozaki, Infrared studies of mixed Langmuir–Blodgett monolayers of octadecyldimethylamine oxide and dioctadecyldimethylammonium chloride with arachidic acid and poly(acrylic acid) 427–428 (1999) 107

Y.M. Jung, H. Sato, T. Ikeda, H. Tashiro and Y. Ozaki, Surface-enhanced Raman scattering study of organic thin films of 2-octadecyl-7,7,8,8-tetracyanoquinodimethane and its charge transfer films doped with 3,3′,5,5′-tetramethylbenzidine 427–428 (1999) 111

Y. Suzuki, H. Seki, T. Inamura, T. Tanabe, T. Wadayama and A. Hatta, Thickness dependence of infra-red absorption enhancement for methanol on evaporated silver films 427–428 (1999) 136

M. Nakamura, M.-B. Song and M. Ito, Adsorption of urea on Au(100) and Au(111) electrode surfaces studies by in-situ Fourier-transform infra-red spectroscopy 427–428 (1999) 167

F. Maroun, F. Ozanam and J.-N. Chazalviel, In situ infrared monitoring of hydrogen adsorption/desorption at a germanium electrode 427–428 (1999) 184

C.-S. Jiang and S. Hasegawa, Photoconductivity of the Si(111)-7 × 7 and $\sqrt{3} \times \sqrt{3}$-Ag surfaces 427–428 (1999) 239

S. Sloboshanin, F.S. Tautz, V.M. Polyakov, U. Starke, A.S. Usikov, B.Ja. Ber and J.A. Schaefer, Structural, vibrational and electronic properties of faceted GaN(000$\bar{1}$) surfaces 427–428 (1999) 250

T. Bitzer and N.V. Richardson, The influence of coadsorbed sodium atoms on the chemisorption of benzoic acid on Si(100)-2 × 1 427–428 (1999) 369

Surface tension

K. Ajito and M. Morita, Imaging and spectroscopic analysis of single microdroplets containing *p*-cresol using the near-infrared laser tweezers/Raman microprobe system 427–428 (1999) 141

Surface thermodynamics (including phase transitions)

U. Kürpick and T.S. Rahman, The role of vibrational entropy in surface diffusion: adatoms and vacancies on Ag(100), Cu(100), and Ni(100) 427–428 (1999) 15

Surface waves

A.L. Glebov, A.P. Graham and A. Menzel, Vibrational spectroscopy of water molecules on Pt(111) at submonolayer coverages 427–428 (1999) 22

S. Hayashi, T. Kitagawa, Y. Sekiguchi and T. Kume, Enhanced-Raman scattering from organic thin films mediated by half-leaky guided modes 427–428 (1999) 126

H. Sano, G. Mizutani, S. Ushioda, T. Kitagawa, T. Kume and S. Hayashi, Enhancement of optical second harmonic response mediated by half-leaky guided modes 427–428 (1999) 131

H. Nishiyama, N. Saito, T. Yashima, K. Sato and Y. Inoue, Effect of shear horizontal leaky surface acoustic wave on selectivity for ethanol decomposition of a copper thin-film catalyst deposited on a positively polarized ferroelectric $LiTaO_3$ single crystal 427–428 (1999) 152

Y. Iwasaki, T. Horiuchi, M. Morita and O. Niwa, Electrochemical reaction of $Fe(CN)_6^{3-/4-}$ on gold electrodes analyzed by surface plasmon resonance 427–428 (1999) 195

Acoustic waves

H. Nishiyama, N. Saito, T. Yashima, K. Sato and Y. Inoue, Effect of shear horizontal leaky surface acoustic wave on selectivity for ethanol decomposition of a copper thin-film catalyst deposited on a positively polarized ferroelectric $LiTaO_3$ single crystal 427–428 (1999) 152

Phonons

J. Fritsch, M. Arnold, C. Eckl, R. Honke, P. Pavone and U. Schröder, Density-functional calculation of phonons in adsorbate-covered semiconductor surfaces 427–428 (1999) 58

T. Moritz, D. Menzel and W. Widdra, Collective vibrational modes of the high-density (1 × 1)-O phase on Ru(001) 427–428 (1999) 64

Plasmons

S. Hayashi, T. Kitagawa, Y. Sekiguchi and T. Kume, Enhanced-Raman scattering from organic thin films mediated by half-leaky guided modes 427–428 (1999) 126

Y. Iwasaki, T. Horiuchi, M. Morita and O. Niwa, Electrochemical reaction of $Fe(CN)_6^{3-/4-}$ on gold electrodes analyzed by surface plasmon resonance 427–428 (1999) 195

Thermal desorption

M. Niwano, In-situ IR observation of etching and oxidation processes of Si surfaces 427–428 (1999) 199

K. Domen, A. Bandara, J. Kubota, K. Onda, A. Wada, S.S. Kano and C. Hirose, SFG study of unstable surface species by picosecond pump–probe method 427–428 (1999) 349

Vibrations of adsorbed molecules

A.P. Graham and J.P. Toennies, Determination of the lateral potential energy surface of single adsorbed atoms and molecules on single crystal surfaces using helium atom scattering 427–428 (1999) 1

A.L. Glebov, A.P. Graham and A. Menzel, Vibrational spectroscopy of water molecules on Pt(111) at submonolayer coverages 427–428 (1999) 22

M. Wilde, K. Fukutani, Y. Murata, M. Kampling, K. Al-Shamery and H.-J. Freund, Angular distributions of NO in laser-induced desorption from Pt(111) 427–428 (1999) 27

T. Moritz, D. Menzel and W. Widdra, Collective vibrational modes of the high-density (1 × 1)-O phase on Ru(001) 427–428 (1999) 64

H. Kato, J. Yoshinobu and M. Kawai, Determination of six types of vibrational mode for bridge CO on Pd(110) 427–428 (1999) 69

C. Silien, Y. Caudano, J.-L. Longueville, S. Bouzidi, F. Wiame, A. Peremans and P.A. Thiry, HREELS, IR and SFG investigation of undoped and doped adsorbed fullerenes 427–428 (1999) 79

S. Suto, K. Sakamoto, D. Kondo, T. Wakita, A. Kimura and A. Kakizaki, Bonding nature of C_{60} adsorbed on Si(111)7 × 7 and Si(100)2 × 1 surfaces studied by HREELS and PES 427–428 (1999) 85

Y. Suzuki, H. Seki, T. Inamura, T. Tanabe, T. Wadayama and A. Hatta, Thickness dependence of infra-red absorption enhancement for methanol on evaporated silver films 427–428 (1999) 136

M. Nakamura, M.-B. Song and M. Ito, Adsorption of urea on Au(100) and Au(111) electrode surfaces studies by in-situ Fourier-transform infra-red spectroscopy 427–428 (1999) 167

Y. Shingaya, H. Kubo and M. Ito, Coadsorption of ammonia and electrolyte anions on a Pt(111) electrode 427–428 (1999) 173

M. Futamata, In-situ ATR-IR study of water on gold electrode surface 427–428 (1999) 179

H. Noda, K. Ataka, L.-J. Wan and M. Osawa, Time-resolved surface-enhanced infra-red study of molecular adsorption at the electrochemical interface 427–428 (1999) 190

M. Niwano, In-situ IR observation of etching and oxidation processes of Si surfaces 427–428 (1999) 199

Y. Kobayashi, K. Sumitomo and T. Ogino, Observation of Ge surface segregation during Si-MBE on Ge/Si(001) probed by Si–H/Ge–H surface vibrations 427–428 (1999) 229

G. Mattei, E.V. Alieva, J.E. Petrov and V.A. Yakovlev, Enhancement of adsorbate vibrations due to interaction with microcavity mode in porous silicon superlattice 427–428 (1999) 235

S. Sloboshanin, F.S. Tautz, V.M. Polyakov, U. Starke, A.S. Usikov, B.Ja. Ber and J.A. Schaefer, Structural, vibrational and electronic properties of faceted GaN(000$\bar{1}$) surfaces 427–428 (1999) 250

T.S. Nunney, J.J. Birtill and R. Raval, Infrared studies of sub-monolayer methylamine and trimethylamine adsorption on Ni(111) 427–428 (1999) 282

M. Frank, R. Kühnemuth, M. Bäumer and H.-J. Freund, Oxide-supported Rh particle structure probed with carbon monoxide 427–428 (1999) 288

P. Jakob, Lateral interactions in (NO + O) coadsorbate layers on Ru(001): fundamental and overtone modes 427–428 (1999) 309

C.-S. Tsai, C. Chen, C.-E. Lin, J.-C. Lin and J.-K. Wang, Surface Raman scattering study on the hydrogenated semiconductor surfaces: vibrational dephasing dynamics 427–428 (1999) 318

T. Mii and H. Ueba, Influence of pulse duration on time-resolved sum-frequency generation on surface vibrations 427–428 (1999) 324

A. Bandara, J. Kubota, K. Onda, A. Wada, S.S. Kano, K. Domen and C. Hirose, Time-resolved SFG study of the vibrational excitation of adsorbed CO on Ni(111) and NiO(111) surfaces under the irradiation of UV and visible photons 427–428 (1999) 331

S.C. Park, W.K. Park and J.M. Bowman, Classical and quantum mechanical studies of the CO vibrations in CO/Cu(100) 427–428 (1999) 343

T. Bitzer and N.V. Richardson, The influence of coadsorbed sodium atoms on the chemisorption of benzoic acid on Si(100)-2 × 1 427–428 (1999) 369

T. Pelster, C. Becker, M. Tanemura, J. Breitbach and K. Wandelt, Adsorption properties of ethene on $Pt_3Cu(111)$ 427–428 (1999) 398

T. Tanabe, Y. Suzuki, T. Wadayama and A. Hatta, Carbon monoxide adsorption on ultra-thin Fe film deposited on Cu(100) 427–428 (1999) 414

J. Heidberg, A. Rugullies, I. Stahl and M. Thomas, Polarization infrared spectroscopic study of the influence of external lateral electric fields up to $8 \times 10^5\ V\ m^{-1}$ on the CO_2–NaCl(100) adsorbate 427–428 (1999) 426

J. Heidberg, M. Hustedt, E. Kampshoff and V.M. Rozenbaum, Davydov and site symmetry splitting in polarized infrared spectra of ordered monolayers. A quantitative theoretical analysis of vibrational frequencies and integrated absorptions for CO_2 on NaCl(100) 427–428 (1999) 431